lesson 4

Alternative Methods Of Input
This lesson includes the following sections:

- Devices for the Hand
- Optical Input Devices
- Audio-Visual (Multimedia) Input Devices
Alternative Input Devices – Devices for the Hand

• Pens

• Touch Screens

• Game Controllers
Devices for the Hand - Pens

• With a pen-based system, you use an electronic pen to write on the screen and choose commands.

• Pens are common input devices for handheld computers, like “personal digital assistants (PDAs).”

• Pens are handy for making notes or selecting commands, not for inputting a lot of text.
The user can point, tap, draw and write on the computer’s screen with a pen.
Devices for the Hand - Touch Screens

- Touch-screen systems accept input directly through the monitor.
- Touch screens use sensors to detect the touch of a finger. They are useful where environmental conditions prohibit the use of a keyboard or mouse.
- Touch-screen systems are useful for selecting options from menus.
Devices for the Hand - Game Controllers

• The two primary types of game controllers are joysticks and game pads.

• Game pads usually provide controls for each hand.

• Joysticks are popular for flight simulator and driving games.
Alternative Input Devices – Optical Input Devices

• Bar Code Readers

• Image Scanners and OCR
Optical Input Devices - Bar Code Readers

• Bar code readers can read bar codes—patterns of printed bars.

• The reader emits light, which reflects off the bar code and into a detector in the reader. The detector translates the code into numbers.

• Flatbed bar code readers are commonly found in supermarkets. Courier services often use handheld readers.
Bar code readers commonly track sales in retail stores
Optical Input Devices – Image Scanners and OCR

- Image scanners digitize printed images for storage and manipulation in a computer.

- A scanner shines light onto the image and interprets the reflection.

- Optical character recognition (OCR) software translates scanned text into editable electronic documents.
Alternative Input Devices – Audio-Visual (Multimedia) Input Devices

- Microphones and Speech Recognition
- Video Input
Audio-Visual (Multimedia) Input Devices - Microphones and Speech Recognition

- Microphones can accept auditory input. A microphone requires a sound card in the PC.

- A sound card can digitize analog sound signals, and convert digital sound signals to analog form.

- With speech recognition software, you can use your microphone to dictate text, navigate programs, and choose commands.
Analog Sound Signals

Digital Audio Output
[electrical signals]
(ex. 11100011) to computer

Analog Signals are Digitized
Audio-Visual (Multimedia) Input Devices – Video Input

- PC video cameras digitize full-motion images.
- Digital cameras capture still images.
- These cameras break images into pixels and store data about each pixel.
- Video images may be compressed to use less memory and storage space.
Lesson 4 Review

- List two reasons why some computer users prefer alternative methods of input over a standard keyboard or mouse.
- List three categories of alternative input devices.
- List two types of optical input devices and describe their uses.
- Describe the uses for speech-recognition systems.
- Identify two types of video input devices and their uses.